

Scaled data based on original data using
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-
State Lighting Products

Test Report Prepared for
Cooper Lighting Solutions
(formerly Eaton)

Brand: LUMARK

Report Number: P270702

Luminaire Tested: **NAV-AF-06-D-UNV-T2R-7027-600**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P270702
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24459)
Test Lab: INNOVATION CENTER P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: LUMARK
Catalog Number: NAV-AF-06-D-UNV-T2R-7027-600
Description: NAVION ROADWAY AND AREA LUMINAIRE
(6) 70 CRI, 2700K, 615mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE II
ROADWAY OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 21608.3 lumens
Efficiency: N/A
Efficacy: 112.0 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1.5' x H: 0')
IES Classification: Type II - Short - Semi-Cutoff
BUG Rating: B2 - U0 - G3

Input Watts (W): 193
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT

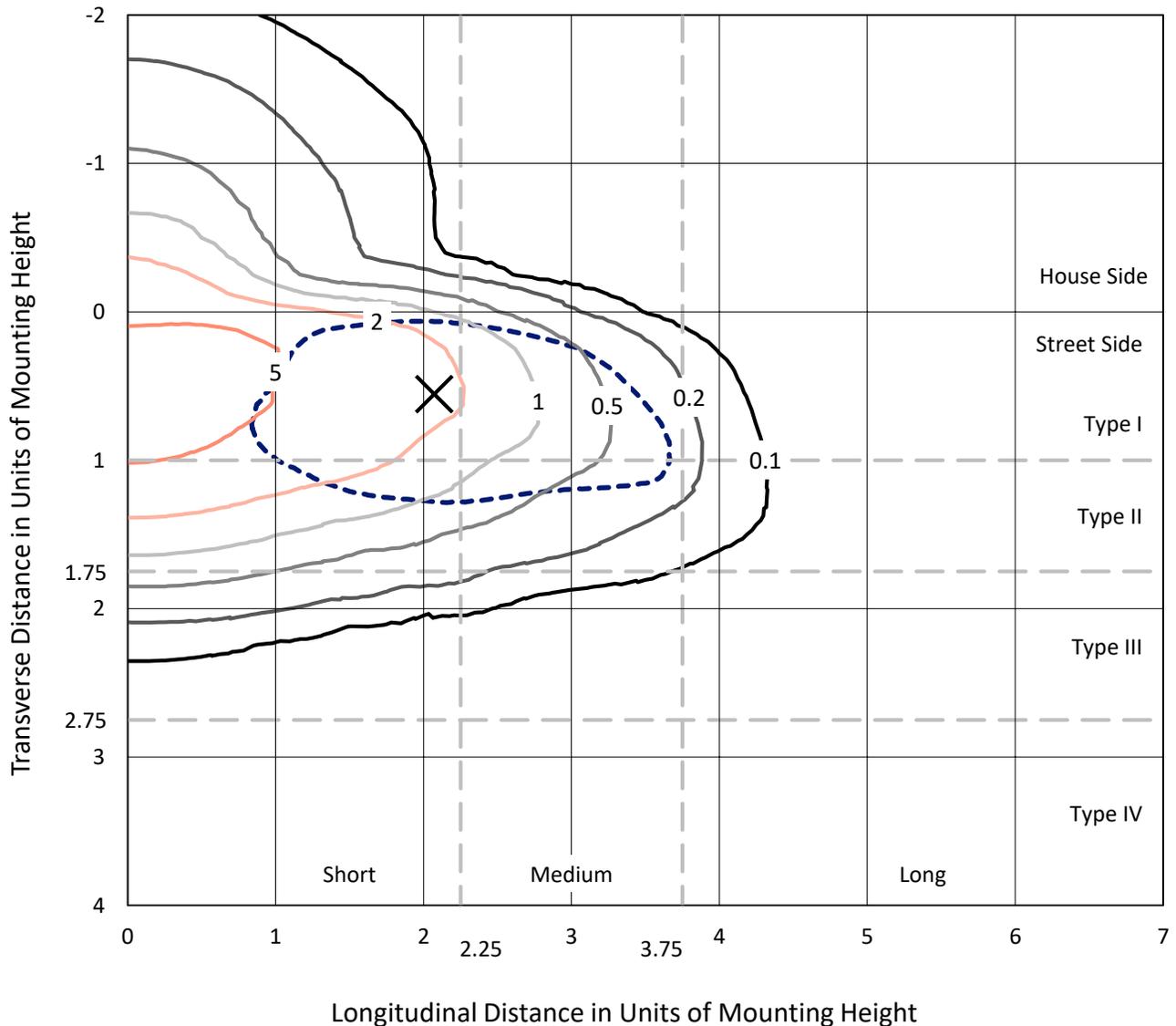


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Iso-Footcandle Lines of Horizontal Illumination

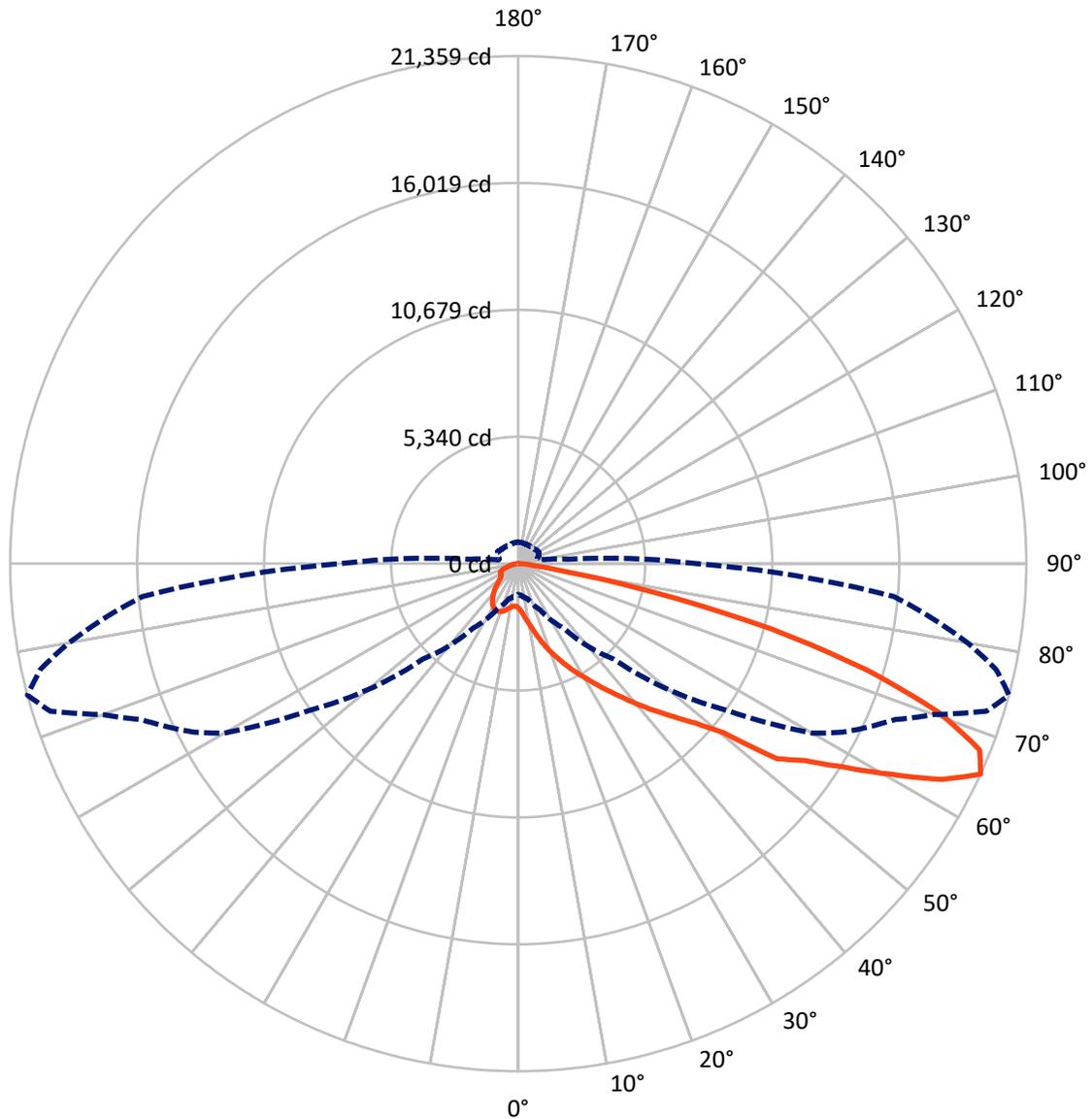
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 8.6 fc
 Type II - Short - Semi-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 75-Deg Lateral - - - Horizontal Cone Through 65-Deg Vertical

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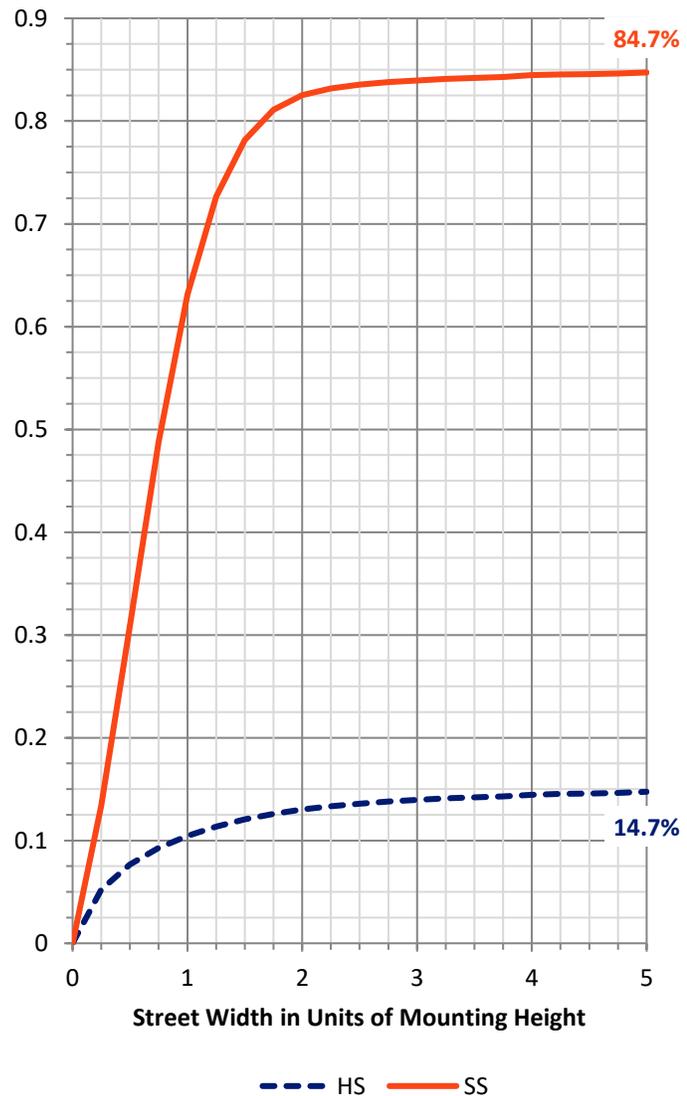
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	3247.0	0.0	3247.0
	% Fixture	15.0	0.0	15.0
Street Side	Lumens	18361.3	0.0	18361.3
	% Fixture	85.0	0.0	85.0
Total	Lumens	21608.3	0.0	21608.3
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	221.0	1.0
10°-20°	844.2	3.9
20°-30°	1703.7	7.9
30°-40°	2893.4	13.4
40°-50°	4035.6	18.7
50°-60°	4946.1	22.9
60°-70°	4653.6	21.5
70°-80°	2040.6	9.4
80°-90°	270.0	1.2
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-90°	21608.3	100.0
0°-180°	21608.3	100.0

Coefficient of Utilization



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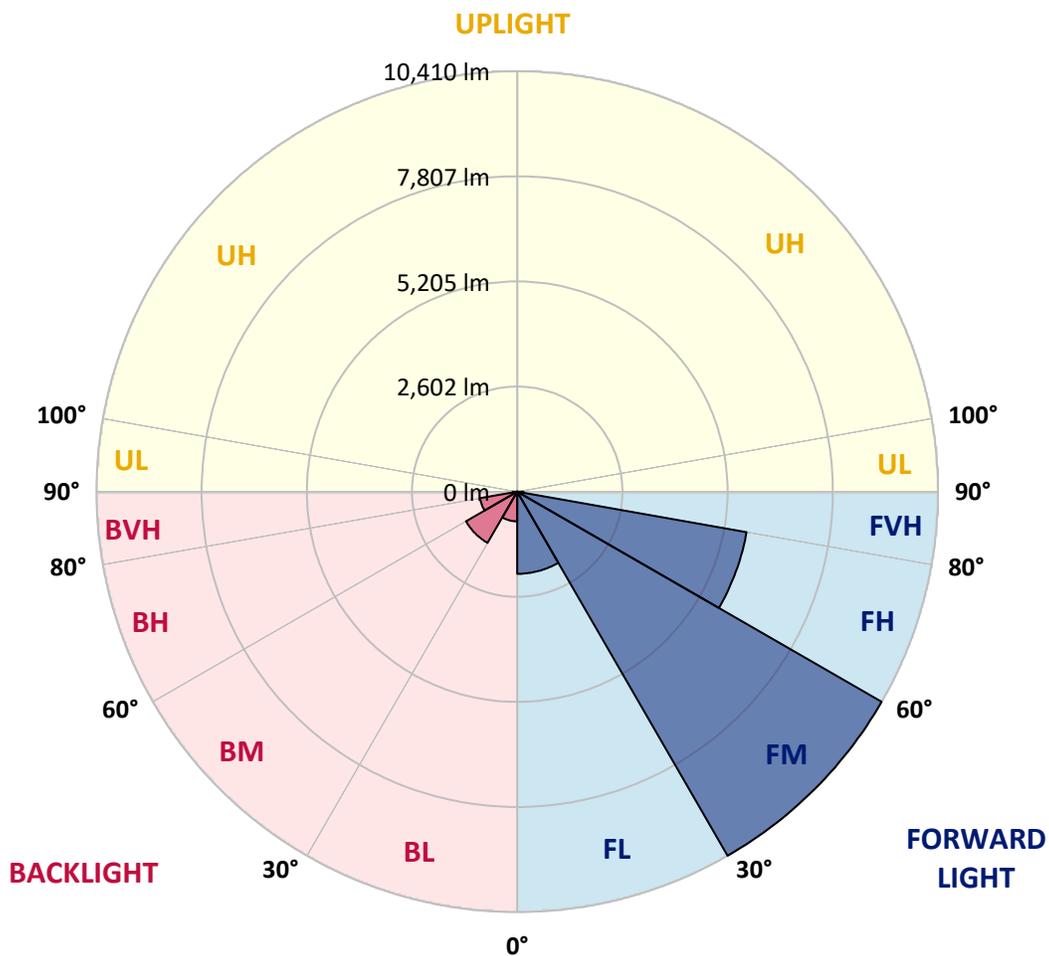
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	2033.9	9.4			
FM (30°-60°)	10409.9	48.2			
FH (60°-80°)	5761.0	26.7			G3/7500
FVH (80°-90°)	156.5	0.7			G2/225
BL (0°-30°)	735.0	3.4	B2/1000		
BM (30°-60°)	1465.2	6.8	B2/2500		
BH (60°-80°)	933.2	4.3	B2/1000		G2/1000
BVH (80°-90°)	113.5	0.5			G2/225
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

BUG Rating: B2-U0-G3

Type II Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	57.5°	60°	62.5°	65°
0°	1872.2	1872.2	1872.2	1872.2	1872.2	1872.2	1872.2	1872.2	1872.2	1872.2	1872.2
2.5°	2357.4	2329.9	2332.7	2294.2	2237.9	2176.1	2125.2	2097.6	2074.2	2067.4	2028.9
5°	3083.3	3048.8	3036.5	2948.5	2816.5	2659.9	2504.6	2444.1	2394.6	2364.2	2290.0
7.5°	3677.1	3659.2	3642.7	3561.6	3431.0	3230.3	2980.1	2890.8	2808.3	2717.6	2628.4
10°	4081.2	4074.4	4067.4	4011.1	3902.5	3728.0	3458.6	3360.9	3257.9	3142.5	3025.5
12.5°	4386.5	4386.5	4392.0	4345.1	4279.2	4144.5	3899.8	3809.1	3704.6	3583.6	3450.3
15°	4591.1	4596.6	4625.6	4639.3	4604.9	4518.4	4303.9	4224.2	4125.2	4005.6	3873.8
17.5°	4727.3	4738.3	4780.9	4826.2	4870.3	4840.0	4680.6	4606.2	4516.9	4407.1	4283.3
20°	5043.4	5029.7	5031.0	5017.4	5081.9	5105.2	5017.4	4955.5	4884.1	4783.7	4670.9
22.5°	5707.4	5681.3	5614.0	5442.1	5363.8	5355.5	5303.2	5270.3	5215.3	5152.0	5039.3
25°	6573.3	6543.2	6409.9	6126.7	5893.1	5677.2	5580.9	5560.2	5524.5	5481.9	5400.9
27.5°	7468.2	7435.4	7263.4	6906.1	6600.9	6165.2	5865.6	5837.9	5804.9	5787.2	5748.7
30°	8256.0	8220.2	8051.1	7688.2	7319.7	6800.2	6249.0	6152.9	6096.3	6101.8	6079.9
32.5°	8947.4	8915.8	8726.0	8356.4	7982.3	7477.9	6746.6	6596.8	6470.3	6423.6	6440.0
35°	9527.5	9498.6	9291.0	8918.6	8541.9	8122.7	7387.2	7161.7	6955.5	6826.3	6811.2
37.5°	9868.4	9851.9	9706.1	9390.1	9016.1	8708.2	8104.8	7854.6	7550.8	7362.5	7280.0
40°	9849.1	9867.1	9842.3	9699.3	9409.2	9185.2	8852.5	8605.1	8308.2	8027.8	7860.1
42.5°	9568.7	9593.4	9704.7	9778.9	9700.6	9564.6	9505.4	9321.3	9054.6	8757.7	8525.4
45°	9183.8	9205.8	9350.2	9618.2	9842.3	9880.7	10077.2	9985.2	9759.7	9506.9	9251.1
47.5°	8594.2	8636.8	8804.4	9230.5	9763.9	10135.0	10557.1	10599.7	10469.0	10260.1	10021.0
50°	7740.4	7796.7	8031.8	8638.1	9467.0	10396.3	11270.5	11432.6	11380.4	11168.7	10926.9
52.5°	6866.3	6922.6	7235.9	7880.7	8988.6	10503.4	11972.9	12388.0	12687.8	12906.3	12948.9
55°	5956.2	6019.5	6363.1	7105.5	8350.9	10367.3	12474.7	12946.2	13249.9	13478.1	13570.2
57.5°	4929.4	5000.9	5333.4	6084.0	7449.0	9820.2	13032.7	13700.8	14153.1	14504.9	14702.9
60°	3751.3	3840.7	4185.7	4941.8	6264.2	8772.8	13281.5	14269.8	14988.8	15516.7	15830.1
62.5°	2378.2	2468.8	2827.5	3612.5	4915.6	7341.8	12577.8	14019.7	15245.9	16026.7	16601.2
65°	1297.6	1337.4	1536.8	2127.9	3314.1	5696.4	10793.5	12493.8	14260.2	15366.9	16249.4
67.5°	973.3	978.8	999.4	1143.7	1765.0	3846.2	8438.8	9996.2	11957.8	13382.0	14436.2
70°	852.2	852.2	854.9	856.4	958.1	2083.9	5717.1	7150.8	8948.7	10389.3	11699.3
72.5°	764.3	756.1	753.3	736.8	750.5	1068.1	3112.1	4400.2	5916.3	7532.8	8754.9
75°	659.9	658.5	658.5	642.0	650.3	751.9	1349.9	2111.3	3286.7	4791.9	5994.7
77.5°	570.5	560.8	562.2	552.5	578.7	576.0	640.6	870.1	1431.0	2517.0	3514.9
80°	470.2	463.3	467.4	461.9	503.1	426.2	431.6	531.9	710.6	1103.7	1556.0
82.5°	347.7	350.5	376.7	374.0	423.5	287.3	316.2	397.3	478.3	549.9	597.9
85°	203.5	207.6	270.7	284.6	310.6	151.3	193.9	236.4	266.6	295.5	307.8
87.5°	22.0	28.8	151.3	155.3	138.9	45.4	78.3	99.0	105.8	112.6	99.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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CANDELA DISTRIBUTION (continued):

	67.5°	70°	72.5°	75°	77.5°	80°	85°	90°	95°	100°	102.5°
0°	1872.2	1872.2	1872.2	1872.2	1872.2	1872.2	1872.2	1872.2	1872.2	1872.2	1872.2
2.5°	2016.5	1998.6	1979.4	1968.5	1949.2	1932.8	1902.5	1877.7	1850.1	1830.9	1822.8
5°	2252.9	2210.4	2165.1	2132.0	2090.7	2055.1	1986.3	1903.9	1877.7	1822.8	1808.9
7.5°	2560.9	2484.0	2407.0	2343.7	2272.3	2213.2	2097.6	1949.2	1930.0	1842.0	1822.8
10°	2922.5	2809.7	2695.6	2598.0	2493.5	2402.8	2232.4	2023.4	2002.9	1890.2	1870.9
12.5°	3326.6	3189.2	3042.0	2896.3	2772.6	2644.8	2412.5	2139.0	2105.8	1972.6	1946.4
15°	3743.1	3594.6	3424.2	3248.2	3095.6	2926.6	2633.8	2290.0	2229.7	2072.8	2037.1
17.5°	4154.1	3993.2	3814.6	3618.1	3439.3	3237.2	2873.0	2459.2	2354.6	2171.9	2126.6
20°	4551.4	4387.9	4199.4	4007.0	3784.3	3553.3	3117.7	2625.6	2466.0	2254.3	2195.3
22.5°	4912.9	4772.6	4584.3	4363.1	4137.7	3877.9	3366.5	2791.8	2563.7	2317.5	2242.0
25°	5293.6	5165.9	4978.9	4765.8	4503.3	4214.6	3623.6	2949.9	2642.1	2351.9	2258.5
27.5°	5678.5	5568.6	5392.6	5168.6	4886.8	4566.4	3884.7	3095.6	2705.2	2362.9	2250.3
30°	6089.5	6004.4	5842.0	5591.9	5307.4	4952.7	4169.3	3238.6	2745.1	2347.8	2213.2
32.5°	6478.5	6475.8	6331.4	6071.6	5765.1	5374.7	4468.9	3382.9	2765.7	2305.2	2148.6
35°	6882.8	6939.0	6830.4	6583.0	6260.0	5826.9	4800.2	3536.8	2767.0	2229.7	2064.7
37.5°	7341.8	7442.2	7394.0	7159.0	6819.5	6342.5	5189.1	3710.1	2758.9	2125.2	1942.3
40°	7864.2	8001.7	8000.2	7802.3	7439.5	6919.9	5641.4	3903.9	2739.7	1994.5	1798.0
42.5°	8462.2	8625.7	8671.1	8475.9	8108.9	7550.8	6159.7	4117.0	2709.4	1865.3	1645.4
45°	9146.7	9291.0	9376.2	9194.8	8826.3	8238.0	6754.9	4358.9	2672.3	1699.1	1470.9
47.5°	9879.4	10047.1	10174.9	10019.5	9626.4	9021.6	7460.1	4670.9	2658.5	1509.3	1282.5
50°	10787.9	10961.2	11237.4	11167.4	10951.5	10465.0	8951.5	5407.7	2664.1	1329.2	1124.5
52.5°	13042.3	13439.6	13788.8	13633.4	13120.7	12286.3	10164.0	5817.3	2548.5	1182.2	1014.5
55°	13722.8	14173.6	14689.2	14624.5	14132.5	13291.1	11122.0	6159.7	2437.2	1074.9	943.0
57.5°	14913.2	15445.2	16165.4	16151.7	15548.3	14601.2	12355.1	6569.2	2389.1	1013.1	907.3
60°	16173.8	16851.5	17846.6	18001.9	17346.4	16360.7	13812.1	7072.4	2396.0	978.8	886.6
62.5°	17094.7	18088.6	19536.0	20000.7	19228.1	18142.2	15324.2	7575.4	2354.6	938.9	861.8
65°	17151.1	18582.1	20635.8	21358.8	20576.7	19181.4	15857.6	7476.6	2107.2	885.3	821.9
67.5°	15776.5	17640.5	20135.4	20928.5	20128.5	18540.7	14922.9	6536.2	1712.8	791.8	753.3
70°	13140.0	15303.5	17893.3	18777.2	18116.1	16509.1	12987.3	5220.8	1279.7	668.1	650.3
72.5°	10154.4	12172.3	14524.2	15342.2	14836.2	13423.2	10243.6	3805.0	914.1	541.6	527.8
75°	7259.4	8977.7	10684.9	10997.0	10498.0	9200.4	6646.3	2376.7	640.6	444.0	424.8
77.5°	4494.9	5612.6	6225.7	5824.3	5187.8	4312.1	2705.2	1173.9	426.2	361.5	342.3
80°	1994.5	2341.0	2185.7	1947.9	1538.2	1264.6	826.1	520.9	274.9	279.1	268.1
82.5°	670.9	709.3	690.1	685.9	618.6	541.6	350.5	225.5	154.0	178.8	174.6
85°	327.2	342.3	343.6	356.0	309.2	240.6	94.9	89.3	65.9	96.2	100.3
87.5°	99.0	100.3	90.6	99.0	79.7	54.9	17.8	24.8	12.3	23.4	23.4
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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CANDELA DISTRIBUTION (continued):

	105°	107.5°	110°	112.5°	115°	117.5°	120°	122.5°	125°	127.5°	130°
0°	1872.2	1872.2	1872.2	1872.2	1872.2	1872.2	1872.2	1872.2	1872.2	1872.2	1872.2
2.5°	1807.6	1802.1	1792.5	1781.5	1778.7	1765.0	1760.9	1754.0	1749.9	1743.0	1737.5
5°	1791.1	1781.5	1770.5	1758.2	1758.2	1738.8	1730.7	1722.4	1722.4	1710.1	1704.5
7.5°	1807.6	1795.3	1782.9	1771.8	1775.9	1754.0	1745.8	1737.5	1736.2	1723.8	1718.3
10°	1854.3	1842.0	1826.9	1815.8	1811.7	1793.8	1784.3	1771.8	1763.6	1755.4	1747.2
12.5°	1925.8	1909.3	1890.2	1866.7	1857.1	1842.0	1826.9	1810.4	1791.1	1782.9	1770.5
15°	2011.0	1983.5	1957.4	1928.7	1902.5	1887.3	1866.7	1840.5	1814.4	1803.4	1787.0
17.5°	2081.2	2052.3	2015.2	1980.9	1934.1	1921.7	1892.9	1861.2	1818.6	1814.4	1789.8
20°	2140.3	2096.3	2050.9	2009.7	1938.3	1931.4	1895.7	1858.5	1798.0	1798.0	1767.8
22.5°	2173.3	2112.8	2059.2	2004.2	1914.8	1909.3	1868.1	1824.1	1749.9	1752.7	1715.6
25°	2178.7	2105.8	2038.6	1972.6	1869.6	1859.9	1807.6	1759.5	1678.5	1673.0	1634.5
27.5°	2156.8	2071.5	1993.2	1913.5	1802.1	1781.5	1723.8	1666.0	1586.2	1572.6	1531.3
30°	2105.8	2005.6	1917.6	1825.4	1708.7	1675.7	1615.2	1556.0	1474.9	1457.1	1418.7
32.5°	2024.8	1910.8	1813.0	1721.1	1591.7	1550.6	1490.1	1431.0	1352.6	1338.8	1303.1
35°	1917.6	1789.8	1686.7	1589.0	1459.8	1417.3	1359.5	1307.3	1235.8	1230.3	1205.5
37.5°	1782.9	1649.6	1539.5	1446.1	1323.7	1301.7	1242.6	1204.2	1145.1	1150.5	1138.2
40°	1630.3	1494.2	1389.8	1307.3	1201.5	1182.2	1146.4	1117.5	1066.6	1081.7	1083.1
42.5°	1476.4	1340.2	1245.4	1171.2	1080.4	1068.1	1043.3	1026.9	988.3	1018.6	1031.0
45°	1301.7	1175.3	1094.1	1037.8	970.4	970.4	958.1	956.8	930.6	973.3	985.6
47.5°	1132.8	1033.7	977.4	943.0	896.2	918.2	914.1	925.2	905.9	949.9	960.8
50°	1004.8	936.2	901.8	885.3	852.2	886.6	894.9	910.1	893.5	932.0	940.3
52.5°	923.7	878.5	859.0	854.9	831.7	874.3	888.1	901.8	882.6	918.2	916.9
55°	878.5	848.1	841.3	849.4	831.7	873.0	886.6	896.2	879.8	904.6	903.2
57.5°	861.8	845.3	849.4	861.8	849.4	883.9	890.8	901.8	885.3	896.2	901.8
60°	860.4	860.4	877.0	893.5	885.3	910.1	914.1	912.8	897.6	899.1	901.8
62.5°	852.2	873.0	900.5	926.5	923.7	954.0	956.8	938.9	926.5	912.8	908.6
65°	826.1	860.4	900.5	936.2	941.7	988.3	993.9	976.0	967.7	944.4	926.5
67.5°	768.4	812.3	859.0	903.2	912.8	976.0	988.3	995.2	999.4	984.3	960.8
70°	670.9	716.2	764.3	815.1	828.9	899.1	925.2	956.8	981.5	1003.4	995.2
72.5°	545.7	587.0	628.3	674.9	695.6	768.4	802.7	857.7	896.2	952.7	976.0
75°	433.1	457.7	482.5	511.3	527.8	599.3	642.0	708.0	760.1	838.5	890.8
77.5°	340.8	353.3	365.6	378.0	385.0	424.8	459.2	525.1	585.5	684.6	761.6
80°	262.6	269.4	270.7	274.9	272.1	291.4	303.7	343.6	396.0	493.4	584.2
82.5°	169.2	174.6	177.3	184.2	170.5	195.2	203.5	207.6	235.0	306.5	371.1
85°	94.9	96.2	97.6	100.3	81.0	105.8	107.2	100.3	97.6	126.5	143.0
87.5°	23.4	22.0	23.4	23.4	9.6	22.0	22.0	15.1	11.0	20.7	16.4
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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CANDELA DISTRIBUTION (continued):

	135°	145°	155°	165°	175°	180°
0°	1872.2	1872.2	1872.2	1872.2	1872.2	1872.2
2.5°	1725.1	1722.4	1723.8	1716.9	1714.1	1715.6
5°	1697.6	1692.1	1692.1	1688.1	1682.5	1682.5
7.5°	1710.1	1699.1	1694.9	1686.7	1678.5	1679.8
10°	1729.2	1710.1	1696.3	1684.0	1674.4	1674.4
12.5°	1741.6	1707.3	1686.7	1670.2	1659.2	1659.2
15°	1744.4	1692.1	1662.0	1644.1	1633.1	1633.1
17.5°	1727.9	1662.0	1623.4	1600.1	1587.7	1590.4
20°	1686.7	1605.5	1560.1	1535.5	1523.0	1524.5
22.5°	1622.1	1528.6	1476.4	1447.4	1435.1	1435.1
25°	1534.0	1432.3	1376.1	1352.6	1341.6	1341.6
27.5°	1433.8	1329.2	1279.7	1261.8	1255.0	1255.0
30°	1321.0	1234.5	1198.7	1186.3	1175.3	1175.3
32.5°	1226.1	1164.4	1151.9	1135.5	1106.5	1105.2
35°	1150.5	1143.7	1134.1	1084.6	1043.3	1037.8
37.5°	1109.2	1150.5	1090.1	1004.8	971.8	970.4
40°	1087.3	1125.8	1021.4	980.1	976.0	976.0
42.5°	1035.0	1062.5	1017.2	993.9	993.9	995.2
45°	980.1	1003.4	1026.9	1006.2	1013.1	1014.5
47.5°	941.7	988.3	1026.9	1008.9	1022.7	1031.0
50°	905.9	974.7	1006.2	1006.2	1021.4	1022.7
52.5°	897.6	955.3	987.0	1002.1	1003.4	996.6
55°	899.1	940.3	971.8	991.1	982.8	982.8
57.5°	897.6	932.0	959.5	966.3	970.4	970.4
60°	899.1	921.0	943.0	940.3	954.0	954.0
62.5°	903.2	905.9	916.9	914.1	934.7	934.7
65°	912.8	886.6	879.8	882.6	907.3	905.9
67.5°	930.6	860.4	838.5	839.8	875.7	870.1
70°	956.8	824.7	791.8	783.5	844.0	834.3
72.5°	965.0	783.5	731.3	723.0	758.8	731.3
75°	926.5	750.5	666.7	639.2	624.1	615.8
77.5°	826.1	730.0	599.3	541.6	518.2	512.8
80°	684.6	687.4	511.3	442.7	514.1	512.8
82.5°	516.9	593.8	409.6	383.5	372.4	310.6
85°	250.2	446.7	314.8	263.9	158.1	149.8
87.5°	22.0	186.9	181.5	118.1	53.5	50.8
90°	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)